

EMULATION SYSTEM FOR EVALUATING DIGITAL DATA CHANNEL CONFIGURATIONS

Abstract of the Disclosure

5 Method and apparatus for evaluating different digital data channel
configurations. A digital data channel stores input data to a recordable medium
and retrieves readback data from the medium. The input data are arranged into an
input sequence of symbols of selected symbol length, and the readback data are
arranged into an output sequence of symbols of the selected symbol length.
10 Comparing the output sequence to the input sequence allows identification of the
number of erroneous symbols for the selected symbol length. Different input and
output sequences are generated using different symbol lengths from the same input
and output data. In this way, error rate performance can be predicted for different
error correction code (ECC) and run length limited (RLL) encoding scheme
15 combinations. The steps are carried out by an emulation system preferably
comprising a field programmable gate array (FPGA) which inhibits and emulates
selected portions of the digital data channel.